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CZECHOSLOVAKIA PRODUCES AUTOMATIC COMPUTER, AUTOMATIC PUNCH CARD CALCULATOR

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[Comment: Numbers in parentheses refer to appended sources.

Automatic Computer

A collective of scientific workers composed of Engr K. Bem, Engr V. Cerny, Engr K. Kristoufek, Dr J. Marek, Engr J. Oblonsky, J. Raichl, and V. Vysin, of the mathematical machines laboratory attached to the Czechoslovak Academy of Sciences, has succeeded in building a calculating machine designed by Dr Antonin Svoboda. In many respects, the computer is far superior to all foreign models.

The Czechoslovak model of the automatic computer, referred to as SAPO (samocinny pocitac, automatic computer), is capable of solving problems in mathematics which thus far have been theoretically solvable, but could not be proven in practice. To solve some of these theoretical problems in the past, an entire army of highly qualified persons would have had to exert every effort; similarly, no classical analyses of these problems could be carried out or a stage of formulation reached, which could be applied in practice. Such obstacles have been removed with the perfection of SAPO.

The machine selects, on its own initiative, the correct time to perform any given operation within a problem, and performs any known mathematical operation. It is capable of completing some 10,000 individual operations in one hour. Such operations can include addition, subtraction, multiplication, etc., with a maximum number of digits.

The machine is virtually errorproof; it discovers its own errors and corrects them. The creators of SAPO have estimated that an undiscovered and uncorrected error could occur during continuous operation of the machine only once every 30,000 years.

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Prior to commencing a computation, basic data are inserted into the machine. SAPO then reads the information and registers it electromagnetically in some kind of register, referred to as "memory." After the machine is started, the directing mechanism selects the first problem from the "memory" and sends it to the operations section which performs the appropriate computation. Similarly, the remainder of the problems are fed through to the final stage.

SAPO is a very complicated machine; a central telephone control panel /automatic exchange/ of a large city is a simple toy compared to the complexity of the machine.

SAPO will greatly aid the many technical sectors of Czechoslovak science and economy. It will not only place within reach such technical computations as have proven to be impossible thus far, but will also have a resounding effect on planning and organization as well as distribution. The existence and use of SAPO in itself poses additional, purely theoretical questions, which will in turn become starting points for new research in mathematics.

The Presidium of the Czechoslovak Academy of Sciences has awarded the above group of workers, who completed the revolutionary automatic computer in 1953, the Prize /not indicated/ of the Second Grade for their significant contribution to the development of socialism.(1)

Punch Card Calculator

The first shipment of Czechoslovak-made automatic punch card calculators was received by the Ministry of Machine Building /apparently on 15 December 1953/.(2) The calculator was designed by Engr Dr Antonin Svoboda and is being manufactured by the Aritma Enterprise in Prague-Vokovice.(3) Only one person is required to operate the calculator (2), which consists of two machines, one a punch card calculator and the other a "realisator" /decoder/.

The Czechoslovak calculator is reputed to perform its operations seven times faster than the US Hollerith calculators. It can multiply and divide up to 12-digit numbers and can also work algebraic problems. Tests prove that a problem which normally takes several weeks can be solved within days.(3)

SOURCES

1. Prague, Svobodne Slovo, 5 Jan 54

2. Prague, Prace, 7 Jan 54

3. Prague, Technicke Noviny, 29 Jan 54

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